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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,518	09/12/2001	Dean M. Philipp	06618-696001	8464

7590

07/30/2003

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EXAMINER

RABAGO, ROBERTO

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 07/30/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/954,518

Applicant(s)

PHILIPP ET AL.

Examiner

Rob Rábago

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-5, and an election of species in Paper No. 6 is acknowledged.

Following a search of the elected species, no prior art has been located which anticipates or renders obvious said species. Accordingly, the remaining species are joined for examination.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 2 is objected to because it has no period at its end.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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5. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for E being nitrogen, does not reasonably provide enablement for any other selections for E. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. The specification as filed contains no working examples of any actual catalyst complexes or any physical demonstration of catalytic activity for olefin polymerization. This rejection based on lack of enablement for all selections for E other than nitrogen includes lack of enablement for obtaining the claimed complexes and lack of enablement for such structures being effective olefin polymerization catalysts.

The only disclosure regarding the making or obtaining of the claimed catalysts is found in the paragraph bridging pages 39-40, which describes a hypothetical synthesis of one embodiment of a diimine complex. For all other structures, applicants broadly state: "those skilled in the art will recognize known synthetic methods by which such compounds could be prepared". Given the extent of literature surrounding Brookhart-type diimine catalyst structures, applicants' description by way of broad strokes is acceptable for E=N. However, given applicants' assertion that these complexes appear not to have been previously synthesized, applicants have not provided reasonable basis that compounds wherein E is other than N which are stable and suitable as olefin polymerization catalysts could be synthesized without undue experimentation. Applicants are invited to bring such evidence to the record.

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Applicants' evidence for catalytic activity for olefin polymerization lies solely in computer-based modeling of reaction energetics of hypothetical catalyst structures paired with hypothetical monomer structures. This evidence, in combination with the known literature surrounding Brookhart-type diimine catalysts, is sufficient to support the contention that the claimed structures comprising E=N would be catalytic for olefin polymerization. However, a similar body of literature regarding analogous structures wherein E is other than N does not exist, and applicants have provided no basis to conclude that such species would function as olefin polymerization catalysts. Applicants' energy calculations have focused solely on diimine structures, and the specification provides no evidence or clear basis to conclude that the broad array of claimed structures wherein E is any "electronegative atom capable of donating electrons to the late transition metal" are catalytic for olefin polymerization.

6. No prior art has been located which anticipates or renders obvious the claimed subject matter. The core of the ligand specified in the claims borrows from well-documented late transition metal diimine catalyst structures (e.g., see Tempel et al. JACS 2000 and Mecking et al. JACS 1998, both of record). It is furthermore well-established in the art that substitution of various ligand positions with either hydrocarbyl or hetero groups can provide useful catalytic effects. However, no motivation can be found for adding to the basic diimine structure the additional components described by "A" and "X" as set forth in the structure of claim 1.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rob Rábago whose telephone number is (703) 308-4347. The examiner can normally be reached on Monday - Friday from 7:30 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

ROBERTO RABAGO
PATENT EXAMINER

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A handwritten signature in black ink, appearing to read 'Roberto Rabago', with a stylized flourish at the end.

RR
July 28, 2003